UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/700,289	11/03/2003	Zachary Steven Smith	200209024-1	4504

22879 7590 03/19/2007	EXAMINER
HEWLETT PACKARD COMPANY	CHU, GABRIEL L
P O BOX 272400, 3404 E. HARMONY ROAD	

INTELLECTUAL PROPERTY ADMINISTRATION	ART UNIT	PAPER NUMBER
FORT COLLINS, CO 80527-2400	2114	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/19/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

	Application No.	Applicant(s)
Office Action Summary	10/700,289	SMITH ET AL.
	Examiner	Art Unit	
	Gabriel L. Chu	2114	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>03 November 2003</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-29</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-8, 12-23 and 26-29</u> is/are rejected.

7)☒ Claim(s) <u>9-11, 24, 25</u> is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>03 November 2003</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Double Patenting

1.   The nonstatutory double patenting rejection is based on a judicially created
doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the
unjustified or improper timewise extension of the "right to exclude" granted by a patent
and to prevent possible harassment by multiple assignees. A nonstatutory
obviousness-type double patenting rejection is appropriate where the conflicting claims
are not identical, but at least one examined application claim is not patentably distinct
from the reference claim(s) because the examined application claim is either anticipated
by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140
F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29
USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir.
1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422
F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163
USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d)
may be used to overcome an actual or provisional rejection based on a nonstatutory
double patenting ground provided the conflicting application or patent either is shown to
be commonly owned with this application, or claims an invention made as a result of
activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a
terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with
37 CFR 3.73(b).

2.   **Claims 1, 2, 4-8, 12, 14-17, 20-23 provisionally rejected on the ground of
nonstatutory obviousness-type double patenting as being unpatentable over
claims 1-4, 6, 7, 9, 10, 11, 18, 19, 20, 22 of copending Application No. 10/839859
(herein 859).**

Claims 1, 2, 4-8, 12, 14-17, 20-23 of the instant application are anticipated by

claims 1-4, 6, 7, 9, 10, 11, 18, 19, 20, 22/859 in that claims 1-4, 6, 7, 9, 10, 11, 18, 19,

20, 22/859 contain all of the limitations of claims 1, 2, 4-8, 12, 14-17, 20-23 of the

instant application. Claims 1, 2, 4-8, 12, 14-17, 20-23 of the instant application therefore

are not patently distinct from the earlier patent claims, and as such are unpatentable for

obvious-type double patenting. (In re Goodman (CAFC) 29 USPQ2d 2010).

While limitations of the claims of 859 are broader than the claims of the instant

application, the language and the disclosure of 859 indicate that the limitation of claims

of the instant application are merely a subset of 859 These differences are not sufficient

to render the claims patentably distinct. Georgia-Pacific Corp. v. United States

Gympsum Co., 195 F.3d 1322, 1325, 52 USPQ2d 1590, 1593 (Fed. Cir. 1999).

This is a provisional obviousness-type double patenting rejection because the

conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 101

3.   35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
conditions and requirements of this title.

4.   **Claims 26-29 rejected under 35 U.S.C. 101 because the claimed invention is**

directed to non-statutory subject matter.

5.   Referring to claim 26, and subsequently claims 27-29, Applicant claims a

"system" comprising functionality implemented with logic. Such a system may be

interpreted as disembodied software, which is considered non-statutory. Applicant may

overcome this rejection by, for example, indicating this functionality is executed by a

processor of the system.

Claim Rejections - 35 USC § 102

6.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7.   **Claims 1-6, 12-19 rejected under 35 U.S.C. 102(b) as being anticipated by**

US 5146460 to Ackerman et al.

8.   Referring to claim 1, 12 Ackerman discloses a method for identifying erroneous

transactions that occur during processor architecture verification testing, the method

comprising:

monitoring an interface (claim 12, all ports of an interface) (For example, from

line 38 of column 6, "Communication and storage means 64".);

determining information related to termination of a test case (From line 37 of

column 8, "This sequence continues until user run criteria are attained, a model error is

detected or a simulation miscompare is discovered.");

and after the test case has terminated, identifying an incomplete transaction that

should have completed prior to termination of the test case (From line 65 of column 2,

"At this point in time, a software simulator is invoked which is initially set to a hardware

accelerator state existing prior to the error condition." From line 24 of column 3, "The

hardware accelerator may then be reinitialized to a different run state for a different test

case or model or, it may be restarted from where it left off." See figures 4, 5.).

9.   Referring to claim 2, 3, 13, Ackerman discloses monitoring an interface

comprises monitoring a point-to-point (P2P) link network of a register transfer language

(RTL) simulator (Abstract, "simulator". From line 50 of column 7, "VERILOG".).

10.   Referring to claim 4, 14, Ackerman discloses determining information related to

termination of a test case comprises detecting a break signal asserted on the interface

(From line 1 of column 8, "...interrupt... stop".).

11.   Referring to claim 5, 15, Ackerman discloses determining information related to

termination of a test case comprises receiving an indication that a test model has

stopped processing (From line 1 of column 8, "...interrupt... stop... Additionally, a

transmit signal may be supplied to accelerator 200 to cause information in storage 214

to be passed to host processor 100 through channel interface 300.".).

12.   Referring to claim 6, 16, Ackerman discloses identifying an incomplete

transaction comprises consulting a pending transactions list (From line 12 of column 3,

"At this point, as a result of having stored previous checkpoint states and having

recorded stimulus data available, the hardware accelerator may be interrupted and

reloaded with a previously recorded checkpoint state. The hardware accelerator with the

checkpoint state loaded is then allowed to operate using recorded stimulus data up until

a time just before the error occurred, at which time the state of the simulator is passed

on to a software simulator along with the recorded stimulus data.").

13.   Referring to claim 17, Ackerman discloses means for identifying an incomplete

transaction comprise means for disregarding at least one of transactions having a start

time on or after the time at which a break signal was asserted and transactions that

occur as a result of a break command being issued (From line 23 of column 8, "At appropriate times, a supervisor program running on the model under test in the accelerator signals that it needs work." Further, from line 58 of column 8, "Just prior to the needwork transfer containing the failing test case, the control software flags the particular test case. A macro within the model checks for the test case flag as simulation progresses. When the flag is detected at the beginning of the particular test case, the simulation run terminates and a model checkpoint is taken. This checkpoint data is sent to a software simulator with an identical model along with a record of transmissions to the model occurring after the checkpoint. That software model is initialized to the state from the last hardware accelerator checkpoint and now produces a complete cycle-by-cycle trace of all facilities in the model, as the simulation progresses. The cycle-by-cycle trace is produced by applying any stimulus that was transmitted to the hardware accelerator.").

14.   Referring to claim 18, Ackerman discloses means for identifying an incomplete transaction comprise means for flagging all pending transactions that are determined to be erroneous (From line 58 of column 8, "Just prior to the needwork transfer containing the failing test case, the control software flags the particular test case.").

15.   Referring to claim 19, Ackerman discloses the means for flagging comprise means for at least one of providing all completed packets associated with the transactions and providing a summary of each transaction that describes all processing associated with each transaction (From line 58 of column 8, "Just prior to the needwork transfer containing the failing test case, the control software flags the particular test

case. A macro within the model checks for the test case flag as simulation progresses.

When the flag is detected at the beginning of the particular test case, the simulation run

terminates and a model checkpoint is taken. This checkpoint data is sent to a software

simulator with an identical model along with a record of transmissions to the model

occurring after the checkpoint.").

Allowable Subject Matter

16.   **Claims 9-11, 24, 25 objected to as being dependent upon a rejected base
claim, but would be allowable if rewritten in independent form including all of the
limitations of the base claim and any intervening claims.**

17.   Referring to claims 9-11, the prior art does not teach or fairly suggest identifying

an incomplete transaction further comprises flagging all pending transactions other than

those that were filtered out in the scope and context of the parent claims.

18.   Referring to claims 24, 25, the prior art does not teach or fairly suggest logic

configured to flag erroneous transactions, in the scope and context of the parent claim.

Conclusion

19.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. See notice of references cited.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Gabriel L. Chu whose telephone number is (571) 272-

3656. The examiner can normally be reached on weekdays between 8:30 AM and 5:00

PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Scott Baderman can be reached on (571) 272-3644. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Gabriel L. Chu
Primary Examiner
Art Unit 2114

gc